

Application No.: 10/618,109  
Amendment Dated: August 7, 2006  
Reply to Office Action of: December 16, 2005

13488HF (GLT-106US)

**Remarks/Arguments:**

Claims 1, 3-7 and 11 are pending in this application. With this response, claims 1 and 3 have been amended. No new matter has been introduced by these amendments. Accordingly, claims 1, 3-7, and 11 remain as the pending claims in this application.

Applicants thank the Examiner for the courtesy extended to applicants' representatives in granting an interview on July 10, 2006 to discuss and clarify the features of applicants' invention as claimed in claim 1. During that interview, applicants and the Examiner reached an agreement on clarifying language in claim 1, which agreement is confirmed in the Examiner Interview Summary Record dated August 2, 2006.

1. A filter material comprising:  
at least one nonheatsealable ply; and  
at least one, heatsealable ply comprising fibers of synthetic material  
and an adhesion promoter, wherein said adhesion promoter consists  
of a polyolefin grafted with functional maleic anhydride groups.

As summarized in applicants' previous response to the Office dated May 16, 2006, the Office conceded that Nakagawa et al. fails to disclose or suggest an adhesion promoter which consists of a polyolefin grafted with functional maleic anhydride groups. As mentioned in the Office Action of December 16, 2005, Nakagawa discloses two constituents as its adhesion promoter, namely (a) an ethylene- $\alpha,\beta$ -unsaturated carboxylic acid polymer and (b) polyethylene resin. For this constituent, the Office Action relies on the tackifiers of Lin, which include adhesion promoters as an optional component, to achieve applicants' invention. For the reasons set forth below, neither reference discloses an adhesion promoter which "consists of" a polyolefin grafted with functional maleic anhydride groups.

As set forth in MPEP § 2143, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to

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combine the references. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all of the claim limitations. For at least the reason noted herein, the Applicants contend that a *prima facie* case of obviousness has not been established; in particular, the prior art references as combined fail to teach or suggest all of the claim limitations. In particular, neither of the references discloses or suggests an adhesion promoter which "consists of" a polyolefin grafted with functional maleic anhydride groups.

In making a rejection under Section 103, the Office is obligated to read each reference as a whole. MPEP § 2141.02. Referring to the Lin reference, the citation used is at paragraph [0025] which is a description of "adhesion promoters." When reviewing this reference as a whole, it is clear that the adhesion promoters are a part of or a sub-component of "tackifiers." See abstract, line 5 and paragraph [0013]. More generally, Lin is directed to improving the adhesion between a binder and an absorbent material. The tackifier of Lin includes various rosins, for example, as well as the adhesion promoters. See paragraphs [0024] and [0025]. The preferred tackifier is a rosin ester. Thus, the adhesion promoter of Lin is an optional subcomponent of a tackifier and therefore, when included, it is inextricably included along with the tackifier.

While the tackifier is important in the environment of Lin, it would be clearly disadvantageous in a filter material to which the claimed invention and Nakagawa *et al.* are both directed because the presence of a tackifier, particularly a rosin ester tackifier, will result in a "pasting up" of high speed rollers used for forming sealing seams. As a result, the rosin ester tackifiers hydrolyze and deposit hydrolyzed polymers on the sealing webs which further results in material building up on the sealing web. As a consequence, much, if not all, of the teabag will not be sealed properly, because the gap between the rollers will decrease and the seams will not close regularly. Moreover, Lin does not provide any hint to a person of ordinary skill in the art that, by using a polyolefin grafted with functional maleic anhydride groups, heat sealability and seal seam strength of a heat sealable fiber material can be greatly improved.

In short, for the reasons expressed above, if upon combining the teaching used by the Office Action of Lin with Nakagawa *et al.*, the references as combined would still fail

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to disclose or suggest all of the claim limitations.

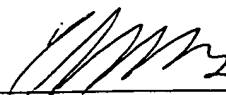
Moreover, the applicants maintain the previous argument that there is insufficient motivation to combine the references. In particular, upon making the combination, Nakagawa *et al.* would be rendered unsatisfactory for its intended purpose. In short, upon attempting to make the products of Nakagawa *et al.* (for example, Lin's tackifier which is inextricably tied to the adhesion promoter) would cause the rollers used for forming the sealing seams to become inoperable. Therefore, while the Office Action has posited motivation to combine the references to be the "desire to provide a heat-sealing layer with improved adhesion," the applicants have rebutted this alleged motivation for the reasons described herein. See MPEP § 2144.08.

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It is respectfully submitted that the pending claims 1, 3-7 and 11 are in condition for immediate allowance and a notice to this effect is earnestly solicited. The Examiner is invited to phone applicant's attorney if it is believed that further clarification for expediting prosecution of the application.

Respectfully submitted,



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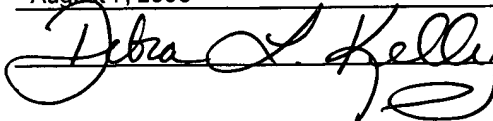
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